What is claimed is:

1.   A magnifying observation apparatus comprising:

an imaging section for photographing an observation image;

5   a display section for displaying the observation image based on an image signal acquired with said imaging section;

an edge detection section for performing signal processing on the image signal acquired with said imaging section and detecting edge information on an edge contained in the

10   observation image;

a point indication section for indicating an arbitrary point in the observation image displayed with said display section;

an edge extraction section for extracting an edge section

15   on the periphery of the point indicated with said point indication section based on the edge information on the observation image; and

a highlight section for performing predetermined image processing on the edge section extracted with said edge

20   extraction section and displaying the resulting edge section over the observation image.

2.   A magnifying observation apparatus according to claim 1, wherein said edge detection section performs arithmetic

25   operation of geometric information on the detected edge section,

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and displays the geometric information on said display section.

3.   A magnifying observation apparatus according to claim
1, wherein said edge detection section detects only the section
5   matching a predetermined pattern in the edge information
contained in the observation image.

4.   A magnifying observation apparatus according to
claim 3, wherein said predetermined pattern is at least one
10   of a straight line, a circle, and an arc.

5.   A magnifying observation apparatus according to
claim 1, further comprising:
an arithmetic operation section for executing predetermined
15   arithmetic operation based on the extracted edge section.

6.   A magnifying observation apparatus according to
claim 5, wherein said point indication section indicates a
plurality of points in a single observation image to select
20   a plurality of edge sections and said edge extraction section
extracts the respective edge sections corresponding to these
points, and wherein said arithmetic operation section executes
predetermined arithmetic operation based on the selected edge
sections and display the result of arithmetic operation on said
25   display section.

7.   A method for observing a magnified image which uses a magnifying observation apparatus comprising an imaging section for photographing an observation image and a display
5   section for displaying the observation image based on an image signal acquired with said imaging section, said method comprising:

performing signal processing the image signal acquired with said imaging section and detecting edge information on
10 an edge contained in the observation image;

indicating an arbitrary point in the observation image displayed with said display section;

extracting an edge section on the periphery of the point indicated based on the edge information on the observation image;
15 and

performing predetermined image processing on the edge section extracted and displaying the resulting edge section over the observation image.

20   8.   A method for observing a magnified image according to claim 7, further comprising;

performing arithmetic operating of geometric information on the detected edge section and displaying the geometric information on the display section.
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9.   A method for observing a magnified image according to claim 7, wherein said edge detection step detects only the section matching a predetermined pattern in the edge information contained in the observation image.

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10.   A method for observing a magnified image according to claim 9, wherein said predetermined pattern is at least one of a straight line, a circle, and an arc.

10   11.   A method for observing a magnified image according to claim 7, further comprising:
       executing predetermined arithmetic operation based on the extracted edge section.

15   12.   A method for observing a magnified image according to claim 11, wherein said indication step indicates a plurality of points in a single observation image to select a plurality of edge sections and said extraction step extracts the respective edge sections corresponding to these points, and wherein said
20   arithmetic operation step executes the arithmetic operation based on the selected edge sections and displays the results of the arithmetic operation on said display section.

       13.   A computer-readable medium storing instructions
25   for operating the magnifying observation apparatus an imaging

section for photographing an observation image and a display
section for displaying the observation image based on an image
signal acquired with said imaging section, said instructions
comprising:

5   performing signal processing the an image signal acquired
with said imaging section and detecting edge information on
an edge contained in the observation image;

         indicating an arbitrary point in the observation image
displayed with said display section;

10   extracting an edge section on the periphery of the point
indicated based on the edge information on the observation image;
and

         performing predetermined image processing on the edge
section extracted and displaying the resulting edge section

15 over the observation image.

14.   A computer-readable medium storing instructions
for operating the magnifying observation apparatus according
to claim 13, said instructions further comprising:

20   performing arithmetic operating of geometric information
on the detected edge section and displaying the geometric
information on the display section.

15.   A computer-readable medium storing instructions

25 for operating the magnifying observation apparatus according

to claim 13, said instructions further comprising;

executing predetermined arithmetic operation based on the extracted edge section.

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